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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE RECEIVED

In re the Application of

M.T. Philipp

Appln. No. 09/445,803

Filed: December 13, 1999

For: SURFACE ANTIGENS AND PROTEINS
USEFUL IN COMPOSITIONS FOR
THE DIAGNOSIS AND
PREVENTION OF LYME DISEASE

) Group Art Unit

) Examiner:

) February 22, 2000

MAY 19 2000

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Assistant Commissioner for Patents
Washington, DC 20231

INFORMATION DISCLOSURE STATEMENT

Sir:

Applicants submit to the Examiner the attached Form PTO-1449 document listing and this paper pursuant to 37 CFR §1.56 and § 1.97-1.98. Form PTO-1449 is attached and copies of the references are enclosed herewith. This Information Disclosure Statement is submitted less than three months from the filing date of this application, and before the receipt of a first Office Action on the merits. Therefore, no fees or declarations are necessary. The Commissioner is hereby authorized to charge any deficiency in any fees due with the filing of this paper or credit any overpayment in any fees to our Deposit Account Number 08-3040.

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REMARKS

Listed below are previously filed, co-pending, and commonly owned U.S. Patent applications.

- (1) U.S. Provisional Patent Application No. 60/051,271, filed June 30, 1997 (abandoned)
- (2) U.S. Patent Application No. 09/300,971, filed April 28, 1999

Listed below are relevant documents cited in the International Search Report mailed on June 29, 1998 in the corresponding International Patent Application No. WO 99/00413, published January 7, 1999. A copy of the Report is enclosed, together with copies of these documents.

- (AU) J.R. Zhang et al., "Antigenic Variation in Lyme Disease *Borreliae* by Promiscuous Recombination of VMP-like Sequence Cassettes," Cell, 89(2) (April 1997)
- (AV) R. Ramamoorthy, "Molecular Characterization, Genomic Arrangement, and Expression of *bmpD*, a New Member of the *bmp* Class of Genes Encoding Membrane Proteins of *Borrelia burgdorferi*," Infect. Immun., 64(4): 1259-1264 (April 1996)
- (AW) J.R. Zhang et al., "Kinetics and in vivo Induction of *vlsE* Antigenic Variation in *Borrelia burgdorferi*," EMBL/GenBank/DDBJ databases, Accession No. AF034515, June 2, 1998
- (AX) H. Kawabata et al., "Genetic and Immunological Analyses of Vls (VMP-like Sequences) of *Borrelia burgdorferi*," EMBL/GenBank/DDBJ databases, Accession No. AB011063, March 13, 1998
- (AY) J.R. Zhang et al., "Kinetics and in vivo Induction of *vlsE* Antigenic Variation in *Borrelia burgdorferi*," EMBL/GenBank/DDBJ databases, Accession No. AF034525, June 2, 1998

- (AZ) J.R. Zhang et al., "Kinetics and In Vivo Induction of Genetic Variation of vlsE in *Borrelia burgdorferi*," EMBL/GenBank/DDBJ databases, Accession No., AF034523, June 2, 1998

Listed below are the relevant documents cited in the Primary Examination, dated October 25, 1999 for the corresponding Taiwanese Patent Application No. 87110509.

- (AR) E. Fikrig et al., "Borrelia burgdorferi P35 and P37 Proteins, Expressed In Vivo, Elicit Protective Immunity," Immunity, 6:531-539 (May 1997)
- (AS) A. Aberer, et al., "Molecular Mimicry and Lyme Borreliosis: A Shared Antigenic Determinant Between *Borrelia burgdorferi* and Human Tissue," Ann. Neurol., 26:732-737 (December 1989)
- (AT) G.S. Gassmann et al., "N-Terminal Amino Acid Sequence of the *Borrelia burgdorferi* flagellin," FEMS Microbiol. Lett., 60:101-106 (July 1, 1989)

The Examiner is respectfully requested to consider the enclosed documents identified in this paper and in the attached Form PTO-1449 during the course of the examination of this application.

Respectfully submitted,
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